

BOEM ENVIRONMENTAL STUDIES PROGRAM: ONGOING STUDIES

BOEM OCS Region: [Gulf of Mexico](#)

Planning Area: South Atlantic

Title: South Atlantic Information Resources: Data Search and Literature Synthesis (GM-09-x21)

Total Cost: \$678,702.69

Period of Performance: FY 2009-2012

Conducting Organization: Research Planning, Inc.

BOEM Contact: [Dr. Donald \(Tre\) Glenn](#)

Description:

Background: The southern United States (US) Atlantic seaboard between Palm Bay, Florida and North Myrtle Beach, South Carolina has not been developed for potential renewable energy reserves. It has unique physical oceanography, physiography, and zoogeography; several valuable fisheries; and characteristic weather patterns. It harbors a suite of protected coastal and offshore marine organisms including sea turtles, bats, birds, fishes, and marine mammals, many of which are considered endangered or threatened.

The last synthesis of physical oceanographic information for the US Atlantic OCS was conducted for BOEM (formerly MMS) in 1981. Offshore of the south Atlantic is dominated by the mighty northward Gulf Stream until it hits the Charleston Bump and turns to northeast direction. The meandering and shoreward penetration of the Gulf Stream generates a complex flow patterns around the shelf break region. Other than hurricane, numeral Northeasters with strong winds and high waves visit the region during fall and winter seasons. In addition, the BOEM sand and gravel program has collected nearshore information during the 1990's and beyond, which could be incorporated into the synthesis. Given the date of the review and the certain advance in knowledge since then (including several large field programs funded by NSF, NOAA, NASA, NAVO and ONR), a synthesis of knowledge is highly recommended, especially given our limited familiarity with this area. The Navy should be a considerable source for their assessments along the Atlantic coast.

Although BOEM has conducted an extensive amount of social science research in the Gulf of Mexico Region, much of this information is not applicable to the South Atlantic coastal region. The south Atlantic coastal area is characterized by many barrier islands and areas highly dependent on recreation or protected Federal or state parks and reserves. Many communities in the region have very limited or no history of offshore energy production. This literature synthesis and associated baseline data will help in understanding these communities and in predicting how they will be able to respond to potential renewable energy development.

In the Atlantic Region, the Environmental Studies Program (ESP) has been limited to prelease descriptive and process-type investigations in recent years since there has been no production in that area. The recent surge in energy prices and renewable energy initiatives may result in future renewable energy leasing activity in the Atlantic Region.

Renewable energy projects link to an electricity market that is very different from the petroleum-based industry BOEM manages under the OCS Lands Act. These projects will also have very different potential environmental effects and operational needs than do offshore petroleum projects. Based on current expressions of industry interests, BOEM expects that most, if not all, Renewable energy projects and activities in the foreseeable future will focus on portions of the BOEM OCS Atlantic (Figure 1). These are “frontier areas” with no ongoing renewable energy operations.

The renewable energy industry is rapidly evolving in the face of changing energy markets, technologies, and governmental policies. Wind is of greatest interest currently because of its proven technology. Planning for this future cannot be based on past experience alone. Limited ocean-based renewable energy development has occurred world-wide and this has been primarily wind power, located offshore of Europe.

Objectives: The objectives of this study are:

- To develop comprehensive information on the human and environmental aspects of the region.
- To update the understanding of the ecological communities, the dominant physical oceanographic and other processes that drive the shelf and deep-sea ecosystems, and the potential sensitivities of the area.

Methods: The location of the study area will extend from Palm Bay, Florida, northward to North Myrtle Beach, South Carolina and includes all Federal marine waters within the US Exclusive Economic Zone (EEZ) and state waters outside of the estuaries. This area includes the BOEM’s designated South Atlantic planning area. Construction of facilities offshore will have impacts on the coastal environment such as transmission cables and should be included in the literature synthesis.

The data search and synthesis will be a comprehensive search and integration of existing environmental and socioeconomic information for the region. Literature searches shall be conducted to identify, acquire, review, and annotate all environmental, socioeconomic, and technological literature (published and unpublished) for the study area. Information acquisition shall be conducted through computer searches, telephone contacts, library visits, personal contacts, and other means as necessary. This shall be submitted as annotated references. Metadata for each geo-referenced data set shall be submitted. Period of performance is expected to be 28 months, with a deliverable report after 24 months.

Products: Reports, annotated references, and geo-referenced data.

Importance to BOEM: The BOEM will need updated and synthesized South Atlantic

OCS information on human and environmental aspects of the region, in order to meet its responsibility of ensuring that all OCS activities are conducted in an environmentally responsible manner. The recent surge in energy prices and renewable energy initiatives may result in future renewable energy leasing activity in the South Atlantic Region.

Current Status: This effort was awarded September 2009. The draft synthesis report is currently being reviewed by BOEM.

Final Report Due: July 2012

Publications: None

Affiliated WWW Sites: None

Revised date: December 2011

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